



Enterprise-Wide
Systems Engineering

Spanning the Government
and the Globe

Partnering with
**Industry and
Academia**

DoD Chief Information Officer
[ASD(NII)/DoD CIO]



A Need for Common Ground in Information Sharing. Warfighter safety hinges on the availability of trusted information. In today's technology-driven battlespaces, this translates into a growing need for secured, enterprise-wide systems that can be relied upon across the government and around the globe. Each branch of our armed forces has traditionally used its own resources to process and share information, so establishing this common ground has become a top priority. The Office of the Secretary of Defense for Networks and Information Integration (OSD/NII) is leading DoD's effort to transition all existing and future resources to a single global enterprise with end-to-end (E2E) interoperability—known as the Global Information Grid (GIG). To make this vision a reality, OSD/NII needs the help of trusted partners from industry and academia—key private sector players in the coalition needed to build an enterprise-wide GIG—to provide components and insights that will help the GIG keep pace with changing technology and mission needs.

EW SE—Establishing the Technical Foundation. DoD's Enterprise-Wide Systems Engineering (EW SE) strategy establishes the policies and guidance needed to maintain a common foundation for the GIG throughout the DoD enterprise. By setting common interoperability and performance standards and providing oversight for rollout, adoption, and use, EW SE assures the GIG's integrity as a trusted resource able to support national security, business, intelligence, enterprise information environment, and warfighting operations.

EW SE Vision, Mission, and Strategy. Making timely, trusted information available when and where it is needed to those who need it most is the driving force behind EW SE's Vision, Mission, and Strategy.

Vision. To provide effective guidance and direction for the ongoing evolution of the GIG.

Mission. To provide the ASD(NII)/DoD CIO with EW SE methods and products which enable the GIG to comply with the E2E governing principles for interoperability and performance needed to support DoD business, intelligence, and warfighting operations across the government and around the globe.

Strategy. To field a GIG built on commercial Internet information technology (IT) supplied by the industrial base to the greatest extent possible. This involves:

- ▶ Defining essential enterprise-wide functions
- ▶ Establishing a GIG interoperability performance framework

- ▶ Capturing key enterprise governing principles for interoperability
- ▶ Working closely with commercial Internet IT industry and standards bodies to ensure DoD's understanding of available and anticipated commercial technologies that could be used to support the GIG
- ▶ Identifying areas that will require research and development (R&D) investment
- ▶ Providing technical input to the ASD(NII)/DoD CIO to support Acquisition, Technology, and Logistics joint portfolio management processes and investment decisions
- ▶ Jointly involving the user community and GIG development community through ongoing experimentation and rapidly developed pilot capabilities that invite informed user input
- ▶ Ensuring program compliance with the GIG technical foundation through ASD(NII)/DoD CIO oversight and influence over DoD budget and acquisition processes

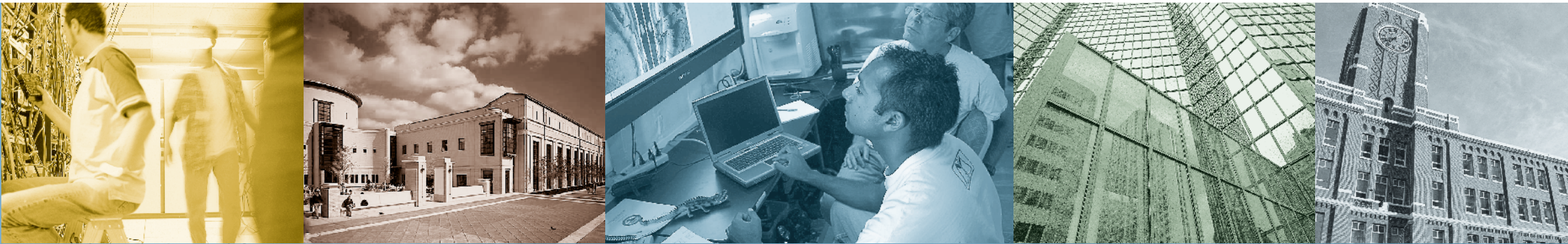
The Need for EW SE. Creating a DoD-wide information enterprise is very different from managing the individual platform-oriented programs of the past. EW SE was established to provide guidance for all aspects of the emerging GIG—including but not restricted to its technical foundation, decision maker support capabilities, program compliance management construct, and ongoing evolution. Technology must be standardized across the NCE for the GIG to achieve the goal of Net-Centricity. Technology must also be standardized across the NCE for the GIG to achieve the goal of Net-Centricity. Many technical options exist, necessitating the identification of the convergence points that are critical and establishing protocol for implementation. This is where the assistance of trusted private sector partners is critical. The GIG is expected to make use of commercial Internet technology whenever possible. Taking advantage of existing technology—including but not limited to commercial-off-the-shelf (COTS) products—helps DoD reduce development costs, rollout timeframes, and user learning curves. Recruiting private sector subject matter experts and product developers as DoD partners puts their knowledge bases to work for the GIG, fosters ongoing relationships, and provides long-term business opportunities for trusted providers. The GIG, with its secured information resources, is central to this effort. EW SE supplies the policies and technical foundation—to be applied in large part to hardware and software components obtained through the private sector—that will make this paradigm shift a reality.

Ways to Get Involved. The EW SE organization evolved to address the information sharing needs of all members of the GIG enterprise. In the coming months, EW SE will be inviting all its stakeholders, including its private sector partners—you—to participate in meetings and conferences addressing potential issues throughout the enterprise. Participation offers you the opportunity to identify specific requirements you would like to see covered in emerging GIG guidance. Involvement at this early stage is critical because it influences overall enterprise success as well as individual stakeholder interests. Other ways you can get involved with the EW SE effort include:

- ▶ Actively participating in the EW SE policy development process
- ▶ Attending GIG Net-Centric Information Document (NCID) meetings
- ▶ Engaging in one-on-one outreach with OSD/NII leadership to discuss the way ahead
- ▶ Extending invitations for NII leadership to speak to your staff, either at your workplace or at professional conferences

Five Key Goals

DoD’s EW SE strategy has identified five key goals that must be met to realize the future of the NCE:



1 Provide continuous oversight of the GIG’s evolution.

EW SE provides technical input to the ASD(NII)/DoD CIO, who is responsible for developing and implementing the Net-Centric policies, oversight, guidance, architecture, and strategic approaches needed for DoD transformation. This input helps shape the GIG’s governing principles of information assurance and interoperability not only between DoD agencies and the various service branches, but with coalition partners as well. These principles, combined with ongoing monitoring, establish and maintain consistency within the GIG at all levels.

2 Maintain an enterprise-wide technical baseline to build the GIG.

EW SE develops, evolves, and maintains the GIG’s enterprise-wide technical baseline, to include defining and documenting E2E guidelines for performance, interoperability, security, network-enabling protocols, standards, and implementation conventions. Results of this will guide DoD Program Managers in the ongoing development of improvements to the GIG.

3 Establish GIG enterprise-wide analysis capabilities.

EW SE assists the ASD(NII)/DoD CIO in establishing enterprise-wide analysis capabilities to support the

evolution of the GIG’s technical baseline. This enables the creation of quantifiable, repeatable assessments of solutions to provide E2E interoperability and performance.

4 Oversee GIG enterprise-wide experiments.

EW SE will enable the ASD(NII)/DoD CIO to enable Net-Centric operations and oversee the execution of GIG compliance management efforts to ensure interoperability and performance, support governance of the GIG evolution, and ensure compliance with the technical foundation. This will require engagement with key GIG programs throughout their acquisition

cycles—within programs and portfolios as well as across portfolios and the enterprise.

5 Establish a GIG compliance oversight program.

EW SE involvement enables the ASD(NII)/DoD CIO to oversee the execution of GIG compliance management efforts that ensure programs are developed according to DoD directives, policies, and standards relating to Net-Centric operations. This requires engagement with key GIG programs throughout their acquisition cycles—within programs and portfolios as well as across portfolios and the enterprise.

Your help will make the GIG even more effective as an information resource that spans the government and the globe.



For more information about EW SE and how you can become involved, please contact:

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The Power of
Information

Access
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